

# Instant Delay 1.0 Manual

by unfilteredaudio

Instant Delay unfilteredaudio

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Delay Time: 1/8th Tempo Sync

Drive: 1.0x Mix: 50.0% Out: 1.0x

Feedback: 0.0% Jitter: 0.0% Cutoff: OFF Rez: 0.0%

Linked < > LP < >

MODULATION MUTE ALL



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## ***Introduction***

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Instant Delay takes the “Modern Instant” mode from our hit delay/looper Sandman Pro and crosses it with our soft saturator and resonant filter from Indent.

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### **Features**

- Instantaneous transitions between delay times without pitch or click artifacts.
- Three filter modes with variable resonance.
- Jitter control to randomize delay times, breaking up repetitive echoes and creating stereo effects.
- Full stereo: Left and Right channels can have linked or independent delay times. A Spread mode allows you to create subtle or massive offsets between the two.
- Patchable modulation system: Our highly acclaimed modulation system is here with full control over every parameter.

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# ***Getting Started***

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## **Installing Instant Delay**

Simply run the provided installer. On Windows, you will need to select your VST directory if the installer doesn't pick the right one by default.

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## **Browsing Presets**

Instant Delay comes with a wide array of presets to get you started. The preset manager on the top of Instant Delay's interface is used to load, save, or browse presets. If you want to get a good feel for the power of Instant Delay, spend some time with these presets before browsing the manual.

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## **Standard Unfiltered Audio Features**

### **CONTROLS**

- All knobs and vertical sliders are controlled in a smooth up-and-down motion.
- Use the Command key (on OS X) or Control key (on Windows or OS X) to fine-tune controls.
- Double-click or Alt-click on a control to return it to a default setting.

### **PRESETS**

- All presets are saved with a .uap file extension. These presets are compatible across all platforms and plug-in formats. They use a simple, non-encrypted XML format for easy editing.
- Use the "Lock" menu to prevent specific parameters from changing while browsing presets.

### **INTERFACE**

- Click the Gear icon on the preset manager to bring up interface options.
- Dark and Light skins provide a comfortable view for all studio situations.
- Resizable interface for easy viewing on all monitors.

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# Controls

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## Levels

**Drive:** Controls the amount of gain applied to the incoming signal. This only affects the wet (processed) signal. At 1.0x, the signal is unaffected. Below 1.0x, the signal is attenuated. As the signal gets louder, it is fed through a saturator to add a pleasant, analog-like distortion. This is especially useful in conjunction with the filter.

**Mix:** Controls the balance between the incoming dry signal and the outgoing wet signal.

**Out:** Controls the amount of gain applied to the outgoing signal. This only affects the wet (processed) signal. This control behaves the same way as the Drive control, but it occurs *after* the filter section. This can help add some harmonics back in after the filter.

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## Delay Time

**Delay Time:** In regular (Linked) mode, this will appear as one large control. In Independent or Spread modes, this will appear as separate L and R controls. These controls determine the length of the delay buffer.

**Time Mode:** Changes how the Delay Time knobs work.

1. Linked: One large delay knob controls the left and right delay times simultaneously.
2. Independent: Left and right delay times are set separately.
3. Spread: Left sets a “master” delay time. The right delay time is then given as an offset of this.

**Tempo Sync:** When active, delay times are locked to rhythmic divisions of your DAW’s tempo.

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## Feedback and Tone

**Feedback:** Controls the amount of the delay’s output that is fed back into the input. This determines how many echoes you hear.

**Jitter:** This randomizes the delay time with every “loop”. This is different from randomizing the delay time with an S/H noise modulator, as the amount of randomization is dependent on the delay time, and the point of randomization is determined after each randomized “loop” is completed. A little jitter is great for stereo echoes!

**Cutoff:** Sets the cutoff frequency of the multimode filter.

**Rez:** Sets the resonance of the multimode filter. At extreme settings, this will introduce oscillation (especially when combined with the Feedback control).

**Filter Mode:** Sets the behavior of the multimode filter.

**LOW-PASS**

Attenuates frequencies higher than the cutoff frequency.

**HIGH-PASS**

Attenuates frequencies lower than the cutoff frequency.

**BAND-PASS**

Attenuates all frequencies from the signal except for a range of frequencies centered around the cutoff frequency.

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# **Modulation System**

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## **Introduction**

Instant Delay utilizes Unfiltered Audio's flagship modulation system, with which you can quickly patch anything from simple parameter changes to complex and even self-evolving systems. Starting off is very easy due to the direct cable-routing user interface.

The first step is to show the modulation manager by clicking the "Modulation" button in the bottom corner of the interface. You'll see the plugin interface get taller, revealing modulation sources, outputs, and inputs on each modulatable plugin parameter.

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## Patching

### **Input and Output Ports**

Outputs and inputs are both denoted by a simple circle. To avoid confusion, just remember that outputs are always located on the top right of each modulator. Everything else is an input.

Output ports have a small circular scaling knob below them which can be used to alter its calculated output value. This knob is set to 1.0 by default (fully clockwise), but can be turned down to 0.0 (center) to zero out its values entirely, or -1.0 (fully counter clockwise) to invert them.

### **Creating Connections**

To create your first modulation "patch" simply click and drag on one of the outputs. You'll see a cable appear next to your mouse, the end of which you can drag to any input on the interface. When you get close enough you'll see the cable "lock" into place, showing you that the path is valid. Once you release the mouse, the connection completes and you'll see the modulation start to animate in real-time.

You can create a second connection from the same output source by clicking on it again. Likewise, try clicking and dragging from an input to an output, which works in the same fashion.

### **Moving or Removing Connections**

In order to move a connection, click on one of the thicker ends of the cable, near the input or output port. You'll see the cable lock onto your mouse, allowing you to move it to a different input/output source. If you release the mouse while the cable is not "locked" onto any port, it will be removed entirely, which is how connections are deleted.

## Inter-Modulation

As you might have noticed, all of the knobs on each modulator have input ports of their own, capable of receiving modulation just like parameters on the main section of the interface. Any output port can be connected to these inputs, meaning that a modulator can even modulate its own parameters! Experimenting with complex inter-modulation chaining can lead to dynamically evolving behavior, and even emergent systems.

## Automation

Our modulation system provides 16 automation “slots” that can be assigned to one or more modulation parameters. Every knob and button on a modulator can be assigned to one of these automation slots by right clicking on it and following the “Add X to Automation Slot...” menu. Once assigned to a slot, this element will mirror the automated value sent in through your DAW. You’ll also see a small number appear next to the element, denoting the automation slot number to which it is assigned.

## Adding Modulators

You can add a new modulator by clicking the “+” button in the modulation header. At this time a maximum of 6 modulators can be used at once, although that is a somewhat arbitrary maximum that we plan to increase in the future.

## Removing and Duplicating Modulators

Modulators can be removed or duplicated by right clicking on them and then selecting the appropriate option.

## Mute Modulation

The “Mute All” button in the modulation header allows you to quickly mute and un-mute all modulation sources.

## Saving and Loading

All modulation routing, values, automation, and general state is saved with the preset and/or with the DAW’s session. Presets are a great way to quickly share interesting modulation patches with other users.

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## Modulator Types

You can change a modulator’s type by clicking the dropdown menu next to its symbol. There are currently six types to choose from, each with its own characteristics and use case. Common parameters such as frequency will remain at their selected value, making the process of auditioning different modulator types both quick and easy.

## LFOs: Sine/Saw/Tri/Square

The LFO family of modulators all use common primitive wave types which are useful for classic “envelope” style parameter modulation.

The Amplitude knob is common to all of them, corresponding to the depth of modulation. This can be either Bipolar or Unipolar which is determined by the state of the +/- button in the modulator's upper right corner (next to the modulator type selector). Bipolar modulation always fluctuates between negative and positive, whereas unipolar modulation is always positive when the amplitude is above 0% and always negative when it is below 0%.

The Frequency knob corresponds to the speed of modulation. It is set in Hz (cycles per second) when in non-tempo-synced mode. Tempo Sync can be activated by clicking the "Hz" button on the top of the modulator, which will turn into a musical note symbol indicating that it has been initiated. In tempo sync mode, modulation speed is synchronized to divisions of the DAWs global tempo setting- for instance setting the frequency to  $\frac{1}{4}$  will correspond to quarter-note modulation cycles.

The Saw/Tri modulator has an additional Shape knob which determines the slope of the triangular wave. At the default value of 0.5, you get a normal triangle wave. At 0.0, you get a downward sloping triangle wave and at 1.0 you get an upward sloping triangle.

The Square modulator has a Width knob which changes the pulse width of the square wave. At the default value of 0.5, you get a normal half-up, half-down square wave. As you approach 0.0, the wave will be almost entirely down, and conversely as you approach 1.0, the wave will be almost entirely up.

## **Input Follower**

The input follower modulator allows you to easily "sidechain" parameters to the incoming audio stream. The Smooth knob determines the speed of the rms meter used to track the incoming audio. Lower values correspond to a more instantaneous reading, while higher values smooth everything out.

## **Macro Control**

The macro modulator can act as a manual control knob capable of outputting values to multiple parameters. In this way you can control many knobs with a single gesture. Alternatively, you can patch many modulation sources into the amplitude knob's input port, turning the macro control into a summing modulation bus.

## **Sample and Hold Noise**

The sample and hold noise modulator chooses random values at the chosen frequency rate. The Slew knob controls the amount of interpolation time whenever a new value is set. At a slew of 0.0 values change instantly, whereas at 1.0 they interpolate over the entire cycle period. Tempo Sync and Uni/Bipolar can be set on this modulator just like LFOs (see above).

## **Step Sequencer**

The step sequencer is a modulator that cycles through up to 16 manually chosen values. T: "Trigger" input. This includes both a manual button and a modulation input. If the button is clicked or the modulation input transitions to a positive signal, the sequencer's active stage will increase by one.

**R:** Reset input. This includes both a manual button and a modulation input. If the button is clicked or the modulation input transitions to a positive signal, the sequencer's active stage will reset immediately to the stage set by the START control.

**AMP:** Sets the maximum amplitude of the modulation outputs.

**FREQ:** Sets the rate at which the sequencer automatically increments. With tempo sync off, this can be set to 0 Hz, making the sequencer only increment based on the state of the T input.

**LENGTH:** Sets the number of active steps in the sequence.

**START:** Sets the first stage in the sequence. This stage is selected when playback restarts or the Reset input is triggered.

**SLEW:** Determines how quickly the output values change. At 0.0, the modulation output is stepped. As SLEW increases, new values are smoothly selected, adding a "slide" effect between values.

## **ROLI Lightpad**

This modulator connects to the excellent ROLI Lightpad (<https://roli.com/products/blocks>) for use as a performance controller. Please note that because this is part of the modulation system, this modulator is not intended for writing automation. If you want to use the Lightpad for automation, you can use the ROLI Blocks Dashboard for loading the interface of your choice and sending MIDI CC.

To get started, connect the Lightpad to your computer using either its USB-C cable or Bluetooth. For instructions on setting up a Bluetooth connection, see the Lightpad's manual.

Once a Lightpad is connected to your computer, it should appear in the drop-down menu on this modulator. Select it and click "Connect". The interface should turn white. You are now in Location + Pressure Mode. To change the active mode, click the large control button on the side of the Lightpad.

### **LOCATION + PRESSURE MODE**

In this mode, the modulator will track the position of one finger on the Lightpad along with its pressure. There are separate outputs for X, Y, Z (Pressure), and On (Touch Gate: on when a finger is touching the Lightpad, otherwise off).

### **SLIDERS**

In this mode, the modulator will output the value of four vertical sliders. Due to the resolution of the Lightpad's screen, it may appear that there are only 15 possible values for the slider. However, the information that is read is higher resolution.

### **TOGGLES**

In this mode, the modulator will output the value of four toggle switches.

### **QUAD PRESSURE**

In this mode, the modulator will output four separate pressure values (one for each quadrant of the Lightpad).

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## ***Recipes and Ideas***

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### Time Stretcher

- Turn off Tempo Sync.
  - Set Delay Time to 5-50 ms.
  - Connect a rising sawtooth LFO modulator to the Delay Time control.
  - Tweak the modulation depth and sawtooth speed until you find a sound you like.
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## ***Credits and Thanks***

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Instant Delay is written by Joshua Dickinson and Michael Hetrick.

We would like to thank:

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<http://www.unfilteredaudio.com>